

What is claimed is:

1. A method for interface an IPABX and a local exchange, comprising the steps of:

5 processing a call originated from an IPABX by a local exchange having one discernible individual by binding a plurality of data transmission lines, that is, a data transmission line trunk group; and

processing a call destined to the IPABX through the local exchange.

10 2. The method of claim 1, wherein the call originating step includes: receiving an external connection code from an IPABX subscriber; transmitting a set-up message to a local exchange after receiving the external connection code;

15 checking a caller number of the set-up message received by the local exchange;

collecting and translating a subscriber's number if the caller number is effective; and

20 searching a route sequence corresponding to the translated number and a trunk line to terminate a call to a local subscriber or route a call to another exchange.

3. The method of claim 2, wherein, in the step of checking a caller number, in case of an individual charging system, a validity checking is performed to check whether the origination number is identical to the corresponding pre-digit, 25 while, in case of a representative charging system, it is checked only whether

there is an origination number.

4. The method of claim 1, wherein the call terminating step includes:
translating a callee phone number transmitted from a caller by a local

5 exchange;

searching out a first data transmission line connected to a pertinent IPABX
and transmitting a 'data transmission line occupancy request signal' to a
subscriber service processor (SSP) which manages the data transmission line,
after translating the number;

10 searching a data transmission line having an idle channel among the data
transmission lines of the SSP;

establishing a call to the IPABX with the data transmission line; and
transmitting a ring to the final destination terminal.

15 5. The method of claim 4, wherein if the pre-digit of the termination
call is made with only a prefix, the pre-digit is recognized before the subscriber's
number is translated, and a destination occupancy request signal is transmitted to
an SSP where the final destination line of the corresponding data transmission line
trunk group exists.

20

6. The method of claim 4, wherein the idle channel searching is
performed by one of a sequential method, a circular method and a random method.

7. The method of claim 1, wherein the data transmission line
25 between the local exchange and the IPABX is operated by a trunk line system.

8. The method of claim 1, wherein the call originated and terminated between the IPABX and the local exchange is distributed while being relayed by a plurality of SSPs.

5 9. The method of claim 8, wherein the local exchange makes a database for information on the number of allocated lines in the SSP per data transmission line trunk group, data transmission line trunk group information, SSP line information index per data transmission line trunk group, data transmission line trunk group line information, and pre-digit information, for relaying an
10 originated or terminated call to the plurality of SSPs.

10 10. The method of claim 1, wherein the local exchange sets a group name of a generated data transmission line trunk group, as to whether a tone (a secondary tone) is to be provided, a digit transmission method, or a charging
15 system.

11. The method of claim 1, wherein the pre-digit assigned to the data transmission line trunk group may be made only with a prefix or may be made with a prefix plus a part of a subscriber's number.

20 12. The method of claim 11, wherein the pre-digit made with a prefix plus a part of a subscriber's number can accommodate a general subscriber and the IPABX together.

25 13. The method of claim 1, wherein the local exchange can register a

plurality of pre-digits for one data transmission line trunk group.

14. The method of claim 1, wherein the local exchange may set up or release a call for each channel of the data transmission line.

5

15. The method of claim 1, wherein the data transmission line trunk group does not additionally include a signaling point.

16. A interfacing apparatus between an ISDN private switching system and a local exchange, comprising:

an IPABX for originating and terminating a call through a data transmission line connected to a local exchange;

a plurality of SSPs for controlling each sub-system so as for the originated or terminated call to be distributed;

an SNP for translating the prefix of an originated or terminated call and performing switching in association with the SSP;

a data transmission line trunk group for being assigned a pri-digit made only with a prefix or a pri-digit made with a prefix and a subscriber's number, as a conceptual device generated by binding data transmission lines of the same pri-digit among data transmission lines connecting the local exchange and the IPABX; and

a PRI trunk group database for defining a connection relation of data transmission lines linking the IPABX, SSP and SNP so as for the data transmission line trunk group to be substantiated as a device.

25

17. The apparatus of claim 16, wherein the data transmission line is operated in a trunk line system.

18. The apparatus of claim 16, wherein the local exchange can register a plurality of pre-digits for one data transmission line trunk group.

19. The apparatus of claim 16, wherein the pre-digit made with a prefix plus a part of a subscriber's number can accommodate a general subscriber and the IPABX together.

20. The apparatus of claim 16, wherein the local exchange sets a group name of a generated data transmission line trunk group, as to whether a tone (a secondary tone) is to be provided, a digit transmission method, or a charging system.

21. The apparatus of claim 16, wherein the data transmission line trunk group database includes a database of the information on the number of allocated lines in the SSP per data transmission line trunk group, a data transmission line trunk group information database, a SSP line information index database per data transmission line trunk group, a data transmission line trunk group line information database, and a pre-digit information database.